

The logo features a stylized diamond shape composed of black and red geometric elements. A red triangle points upwards from the center, while black shapes form the rest of the diamond's outline.

**Diamond Power**  
**Specialty Ltd.**  
a Diamond Power International, Inc. company

*Trusted for experience, Preferred for performance*

# **Diamond Power**



**Specialty Ltd.**

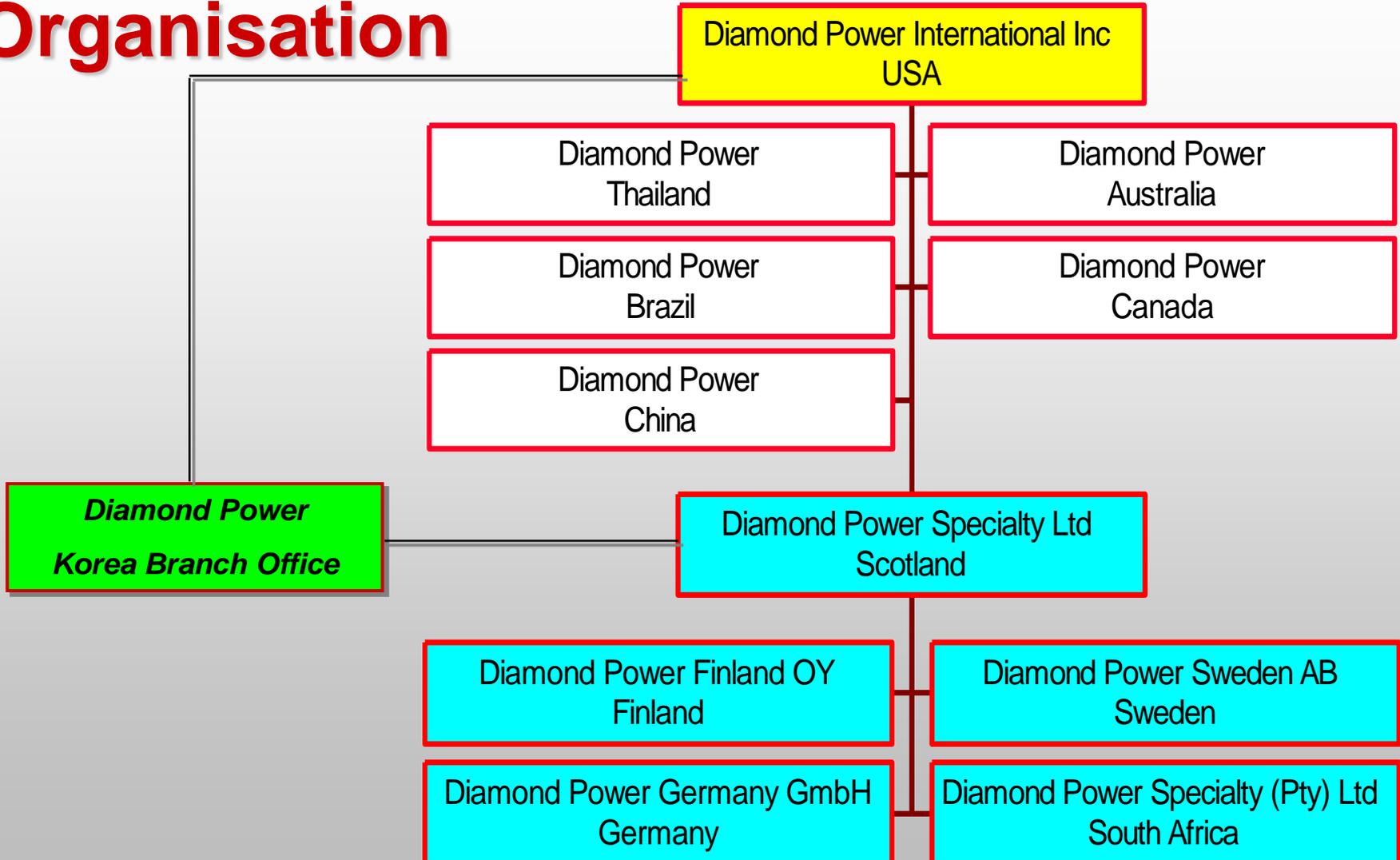
a Diamond Power International, Inc. company

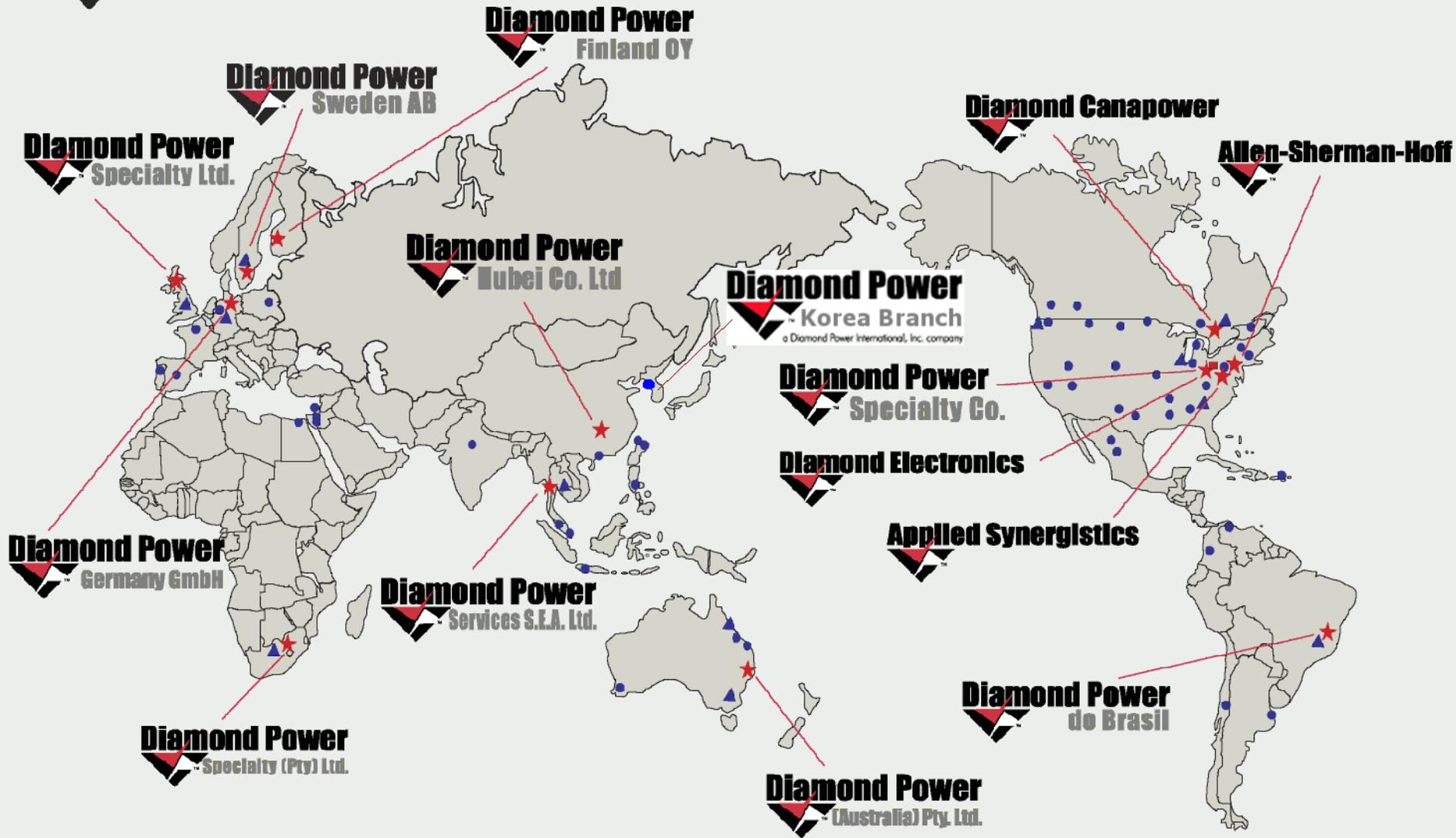
*Trusted for experience, Preferred for performance*

# Diamond Power History

- 1903 Diamond Power Specialty Co. founded in Detroit by Raphael Herman
- 1913 Diamond Blower Company Ltd., UK
- 1922 World's first retractable blower
- 1964 Diamond Power Specialty Limited formed in UK
- 1978 Diamond Superior AB, Sweden established.
- 1985 Diamond Power Finland established
- 1998 Diamond Power Specialty Pty - South Africa
- 2000 Acquisition of Hopkinson sootblowers
- 2001 Diamond Power Sturm GmbH established.
- 2002 Acquisition of LT Productor AB - Port Rodders  
Applied Synergistics - Boiler Management Systems
- 2004 Diamond Power branch office in South Korea

# Organisation





- Diamond Power International, Inc. Headquarters
- ★ Divisions, Subsidiaries, & Joint Ventures
- ▲ Service Centers
- Sales / Sales Representatives

# Diamond Power International Inc.



Headquarters in Ohio, USA.

## **Manufacturing Sites:**

**Diamond Power Specialty Co., USA**

**Diamond Power Specialty Ltd., Scotland**

**Diamond Power-Hubei, China**

## **Subsidiaries:**

**Diamond Power Sweden AB, Sweden**

**Diamond Power Finland OY, Finland**

**Diamond Power Germany GmbH, Germany**

**Diamond Power Specialty (Pty) Ltd., South Africa**

**Diamond Power Australia (Pty) Ltd., Australia**

## **Service Centres:**

**Diamond Power do Brasil Ltda, Brazil**

**Diamond Power Services SEA Ltd., Thailand**



# Diamond Power European Group

- Turnover: US\$ 20m
- Export share: 80-90 %
- Employees 160



**ISO 9000:2000 Quality System**



# Diamond Power European Group

## Main markets

- Europe
- Africa
- India
- Middle East
- Far East



## Manufacturing expertise combined with rigorous quality control

### ISO9000 Quality System



#### CERTIFICATE OF APPROVAL

This is to certify that the Quality Management System of:

**Diamond Power Specialty Ltd**  
**Dumbarton, Scotland**  
**United Kingdom**

has been approved by Lloyd's Register Quality Assurance  
to the following Quality Management System Standards:

**ISO 9001:2000**

The Quality Management System is applicable to:

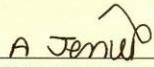
**Design, manufacture and servicing of sootblower systems  
and related control systems for boilers  
and heat exchangers.**

Approval  
Certificate No: LRQ 0850391

Original Approval: 31 March 1987

Current Certificate: 27 October 2003

Certificate Expiry: 31 March 2005

  
Issued by: LRQA Coventry

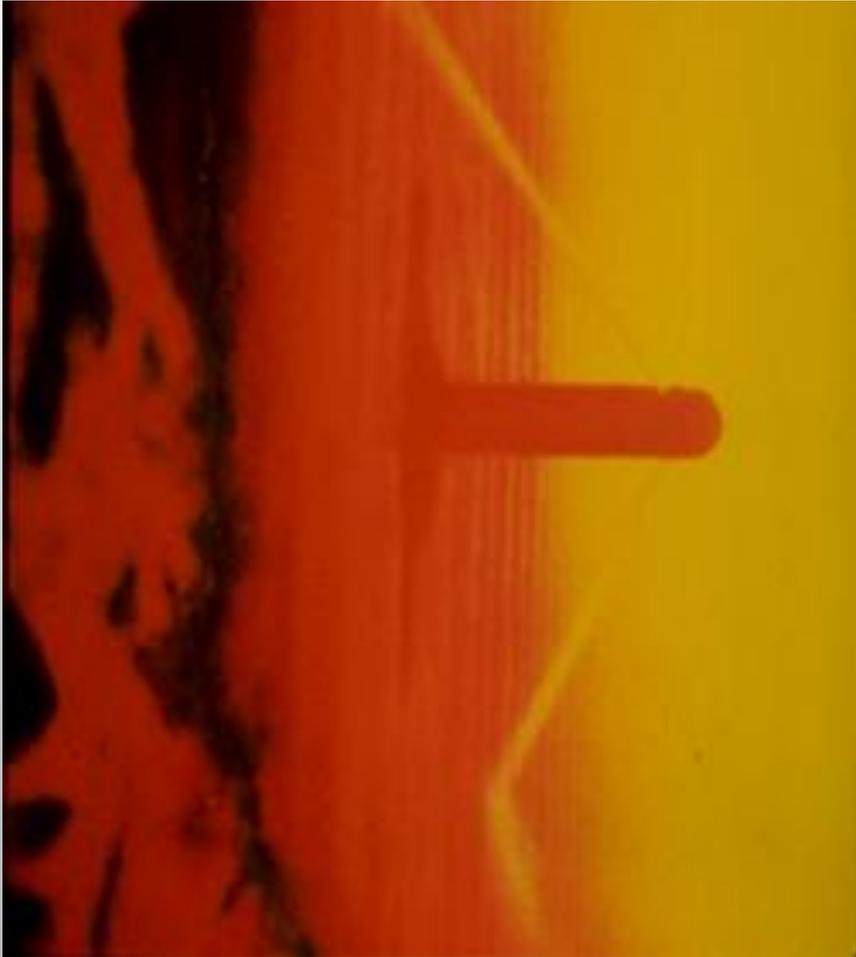


This document is subject to the provision on the reverse.

This approval is carried out in accordance with the LRQA assessment and certification procedures and monitored by LRQA.  
The use of the UKAS Accreditation Mark indicates Accreditation in respect of those activities covered by the Accreditation Certificate Number 001  
[www.lloydregister.com](http://www.lloydregister.com)

LLOYD'S REGISTER QUALITY ASSURANCE

**Diamond Power supplies precision engineered equipment to maintain the efficiency of all types of boilers & heat exchangers.**



- **Sootblowers**
- **Thermoprobes**
- **Control Systems**
- **Hydrojet**
- **Port Rodders**
- **Furnace Viewing Cameras**
- **Boiler diagnostics equipment**



## Applications:

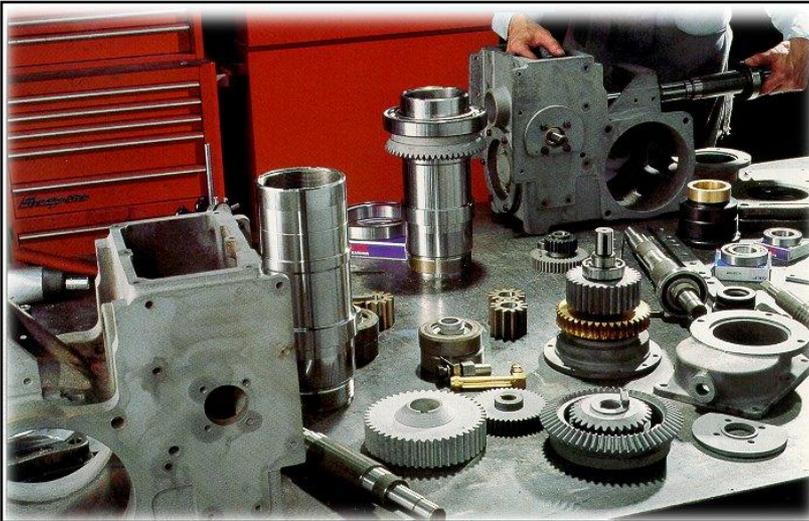
- Utility Power boilers
- Recovery boilers
- Refinery
- Incinerators
- Waste Heat
- HRSG
- FGD

## Fuel types

- Coal
- Oil
- Biomass
- Black liquor
- Chicken Litter
- Municipal Waste



## Parts & Service



### Genuine Spare Parts

- **Diamond**
- **Hopkinsons**
- **Ivor**

### Service Centres

- **U.K.**
- **USA**
- **Thailand**
- **Australia**
- **South Africa**
- **Sweden**
- **Finland**
- **Brazil**
- **Germany**

### Site Services

- **Installation**
- **Maintenance**
- **Turnkey Contracts**
- **Carriage/Valve Rebuilds**

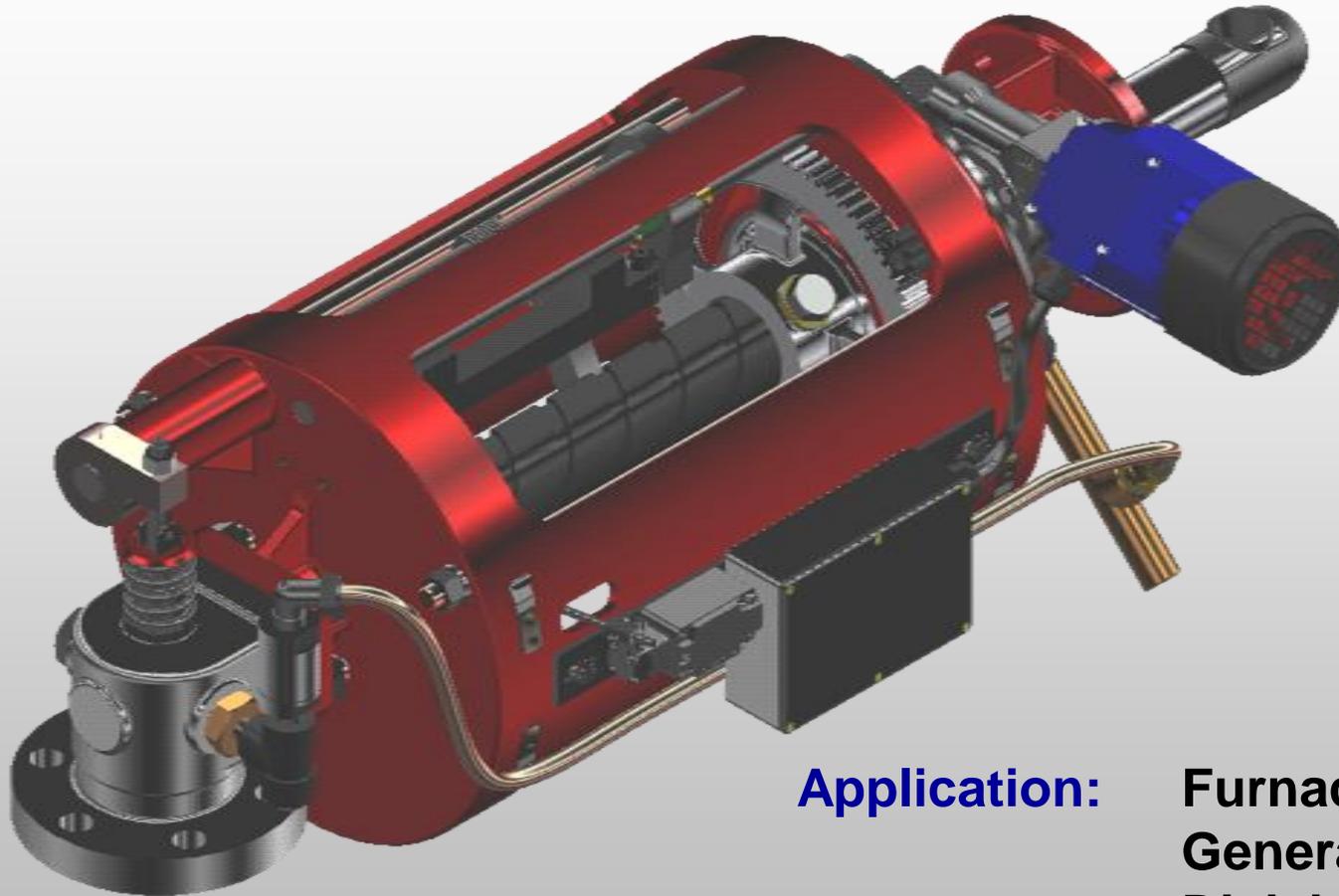
# Diamond Power Product Range

# Sootblowers - A necessary evil !

## Why Sootblowing ?

1. To Improve Heat Transfer
2. Steam Temperature Control
3. To Control Slagging & Fouling

# IR2G Short Retractable Sootblower

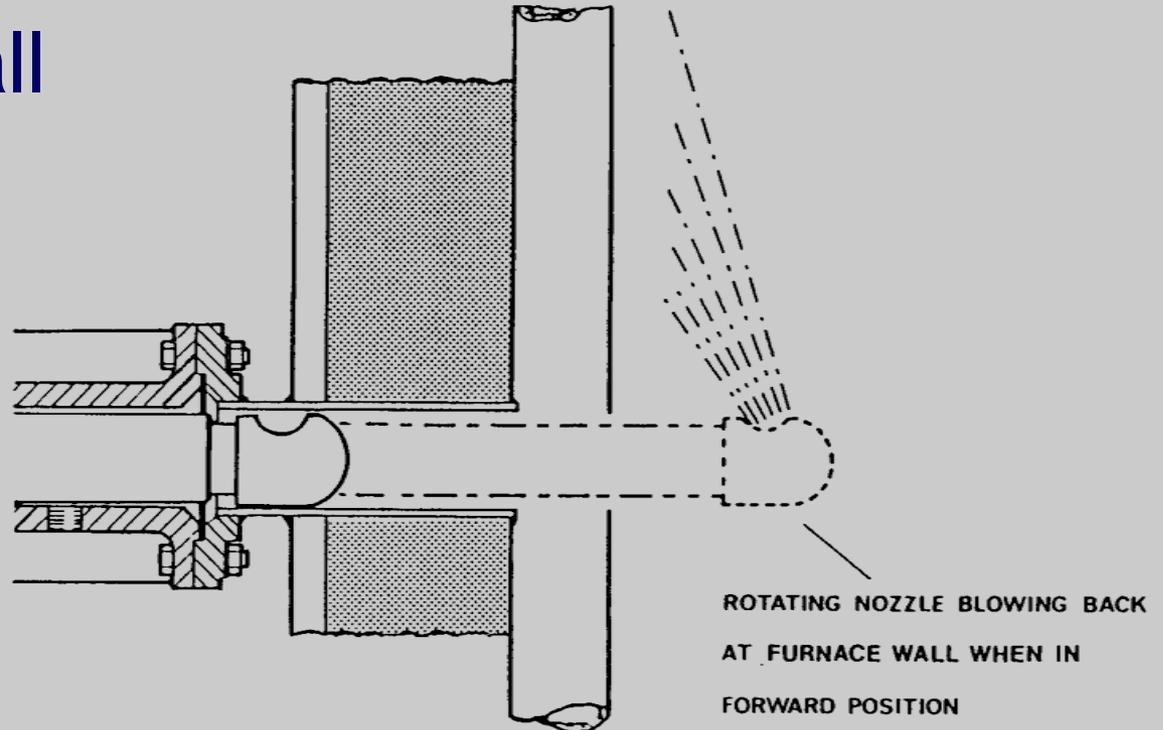


**Application:** Furnace walls  
Generating banks  
Division wall tubes

**Travel:** 254mm

# Short Retractable Blowers

- Travel = 254mm
- Single nozzle blows back on furnace wall



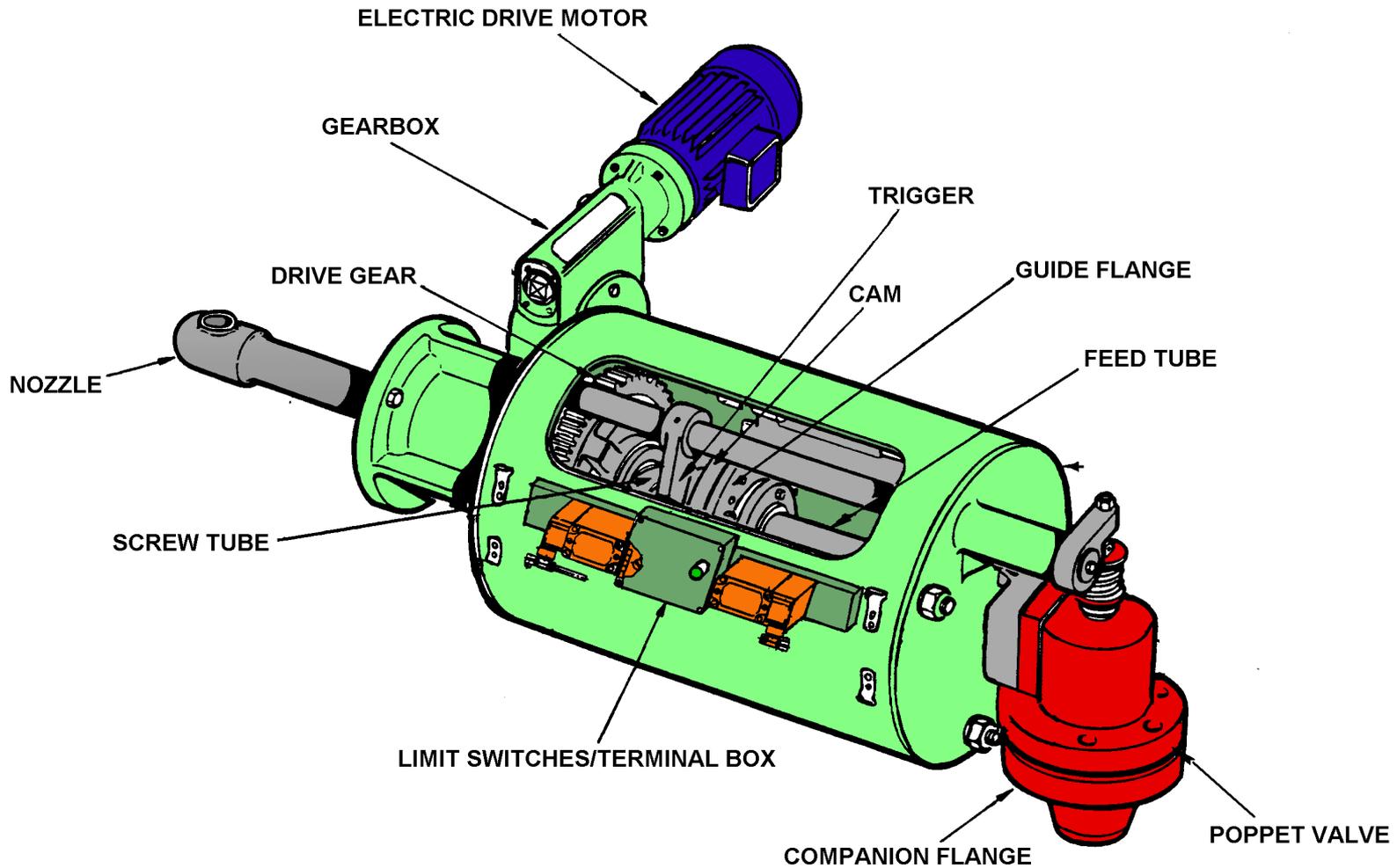
## **Cleaning sweep**

**Approx. 3.0m along tubes**

**Approx. 2.5m across tubes**

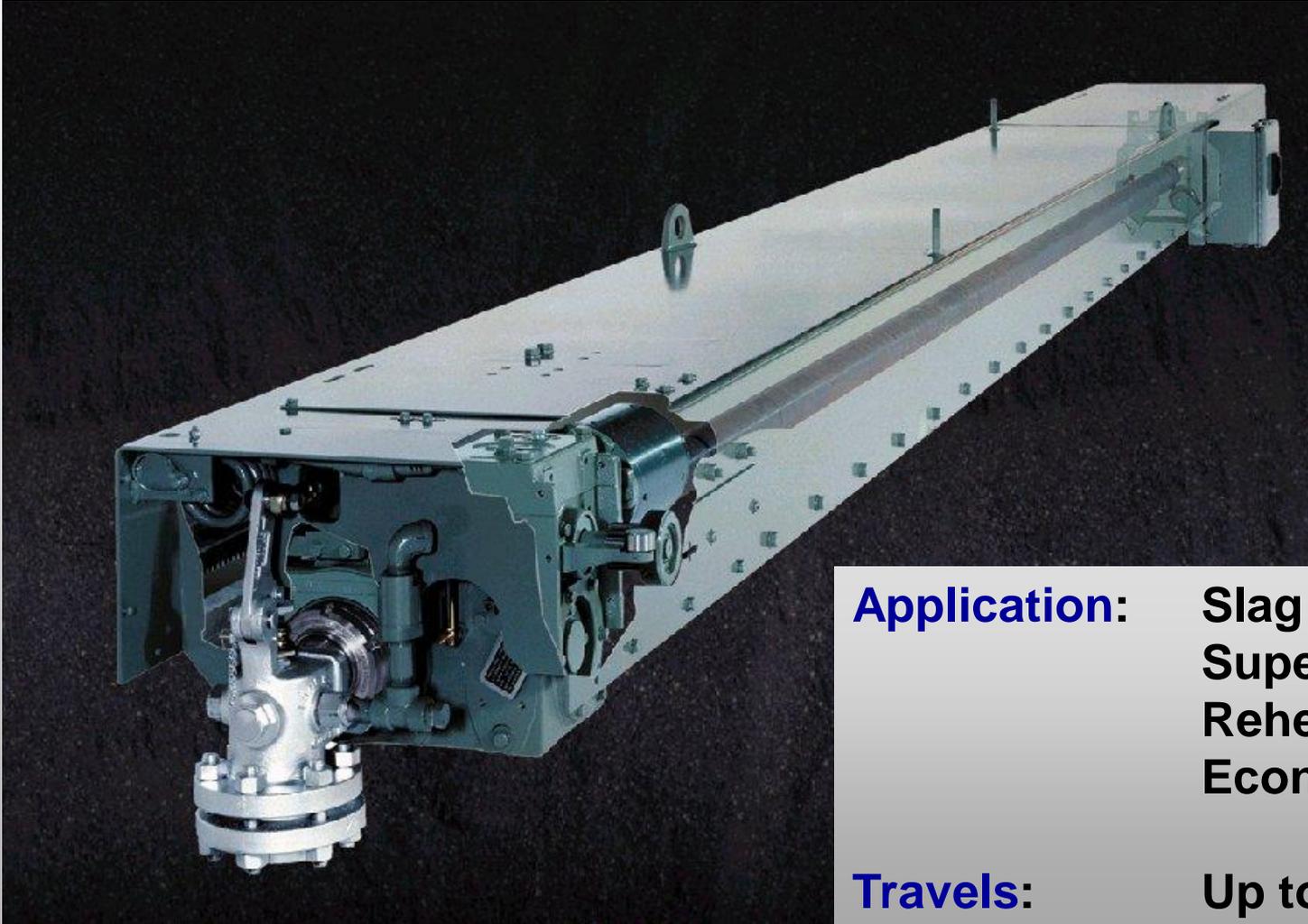
**Variable blowing revolutions -  
controlled by operator**





**FIG.1 IR2G SOOTBLOWER OVERALL VIEW**

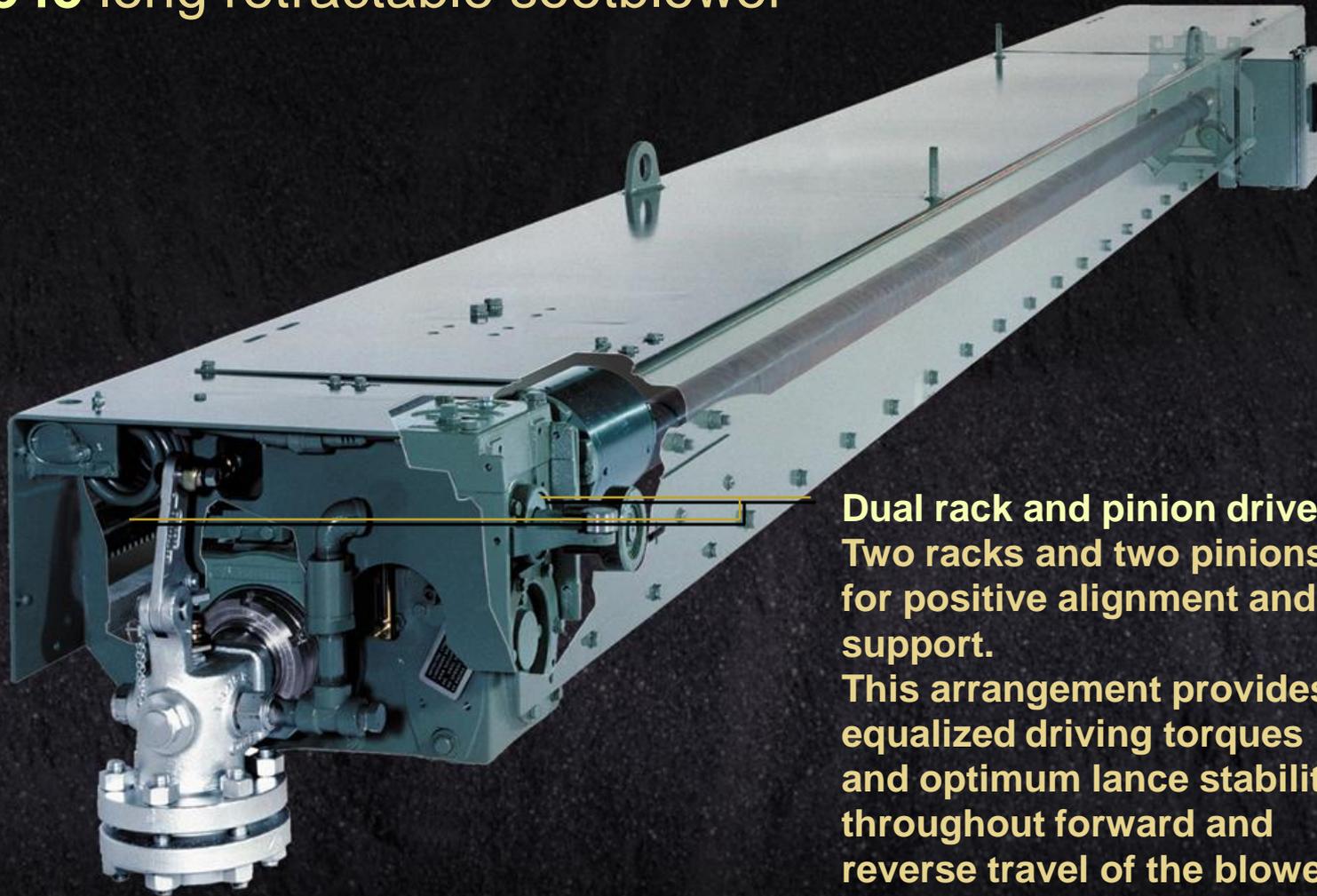
# IK500 Long Retractable Sootblower



**Application:** Slag Screens  
Superheater  
Reheater  
Economiser

**Travels:** Up to 16.75m

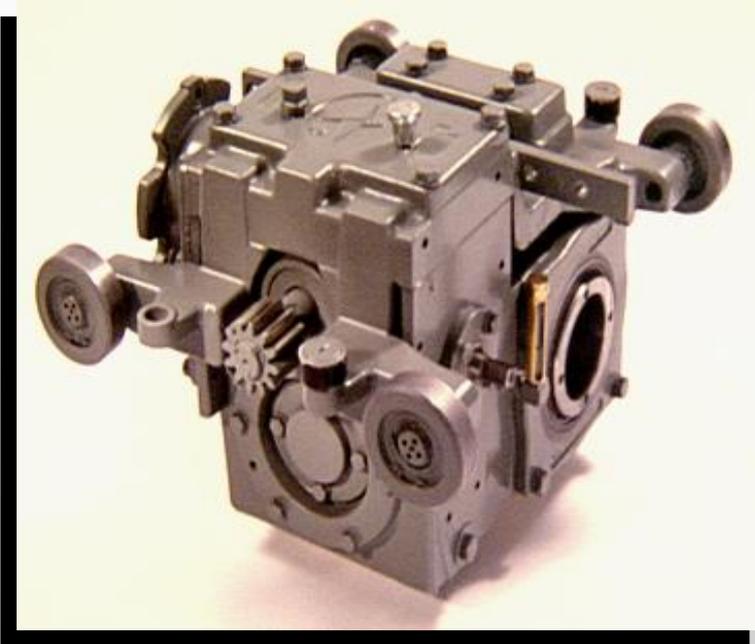
## **IK-545 long retractable sootblower**



**Dual rack and pinion drives:  
Two racks and two pinions  
for positive alignment and  
support.**

**This arrangement provides  
equalized driving torques  
and optimum lance stability  
throughout forward and  
reverse travel of the blower.**

# Series One Carriage



## Full Circulating Common Oil Sump

- Prevents Oil Burning
- Improved Heat Dissipation

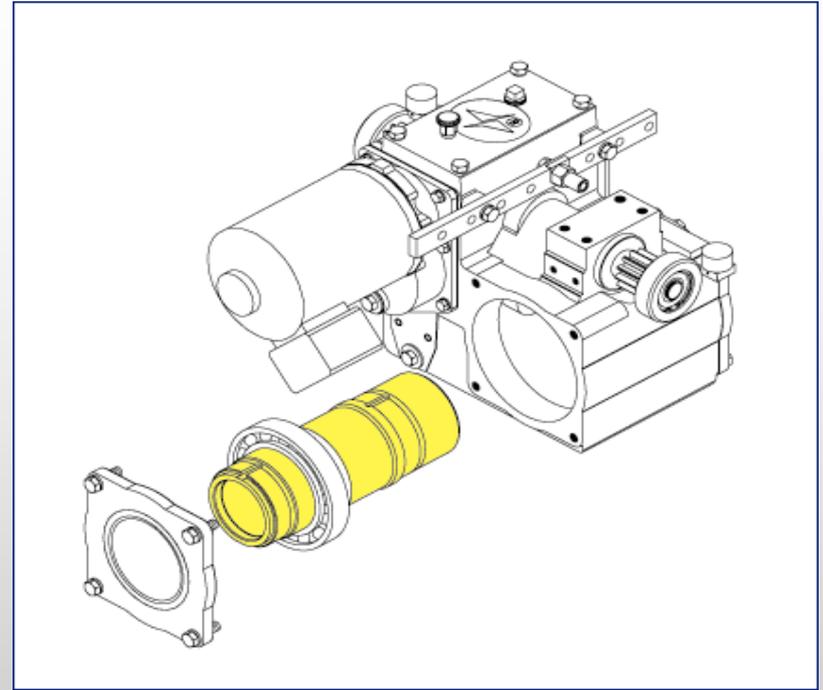
## No Leakage

- Special Viton/Teflon Oil Seals
- Proper Shaft Finishes
- Improved Gaskets and Sealers
- Magnetic Inserts

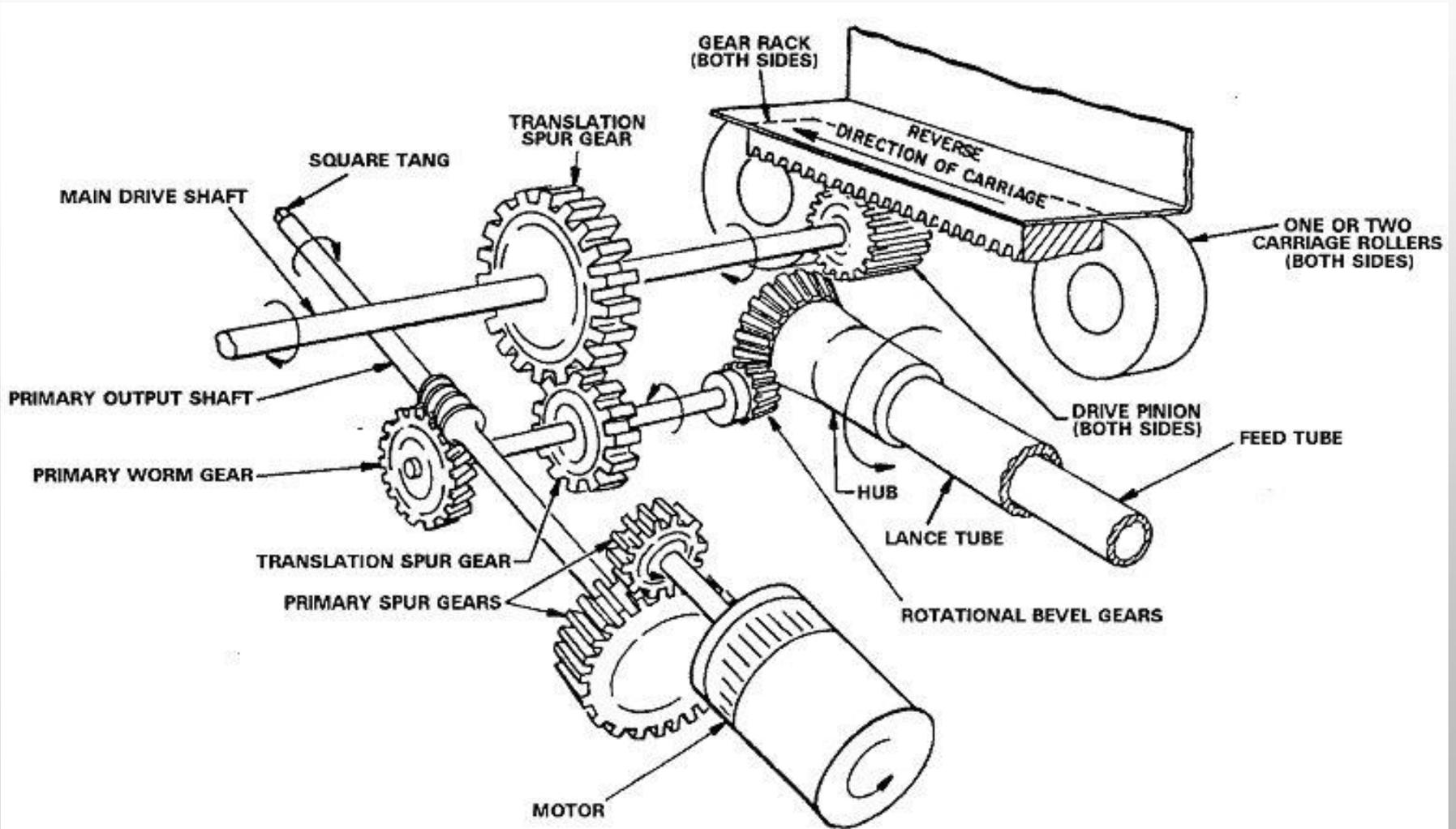
## Heavy Duty Components

# Sootblower Carriage

- **Transmission gear set used to drive lance tube in and out of the boiler**
- **Provides for translation and rotation of lance**
- **Houses “lance hub” that contains packing assembly, which provides pressure seal between lance and feed tubes**

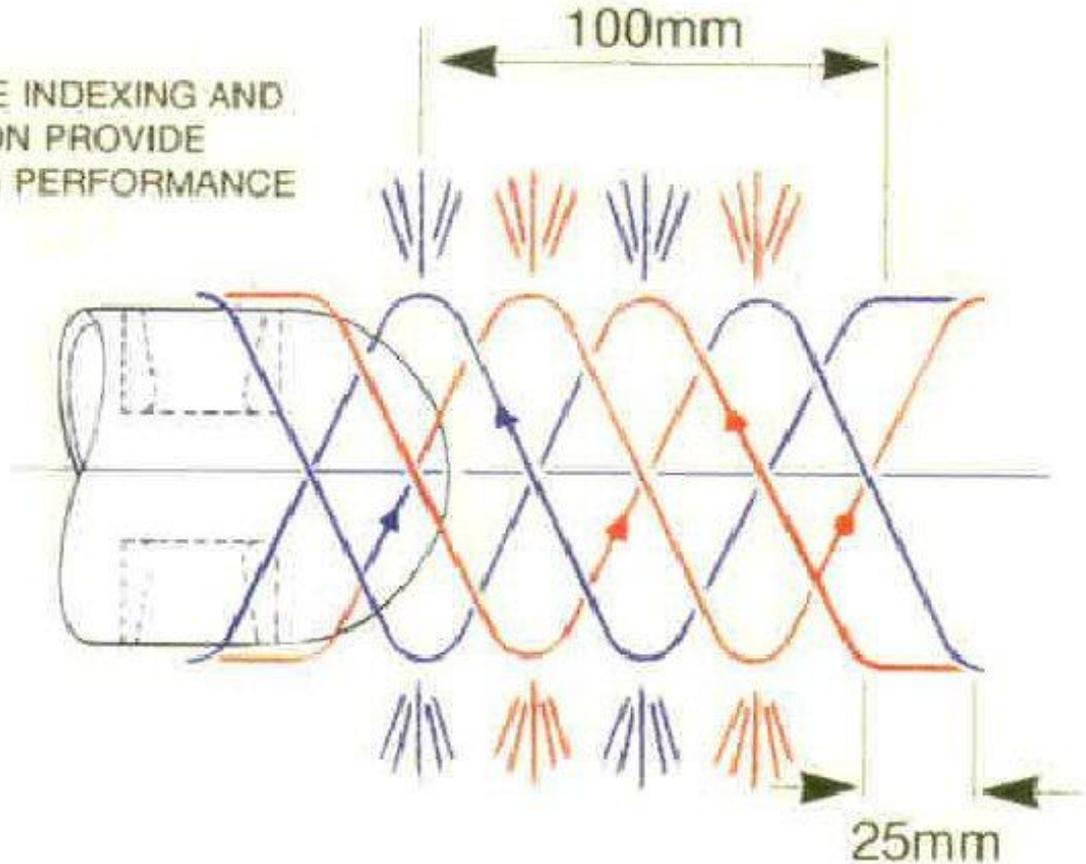


# Drive Mechanism

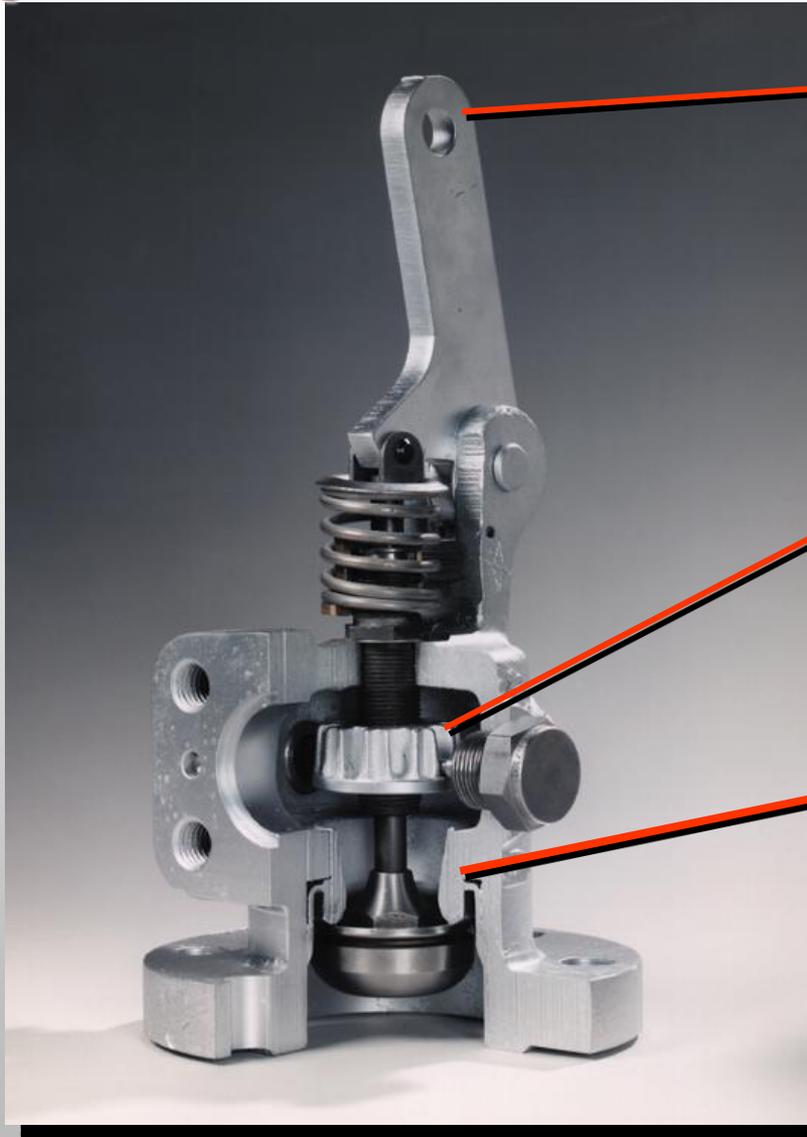


HELIX PATTERN, LANCE INDEXING AND  
REVERSE ROTATION PROVIDE  
UNMATCHED CLEANING PERFORMANCE

-  EXTENDING
-  RETRACTING



# Poppet Valve



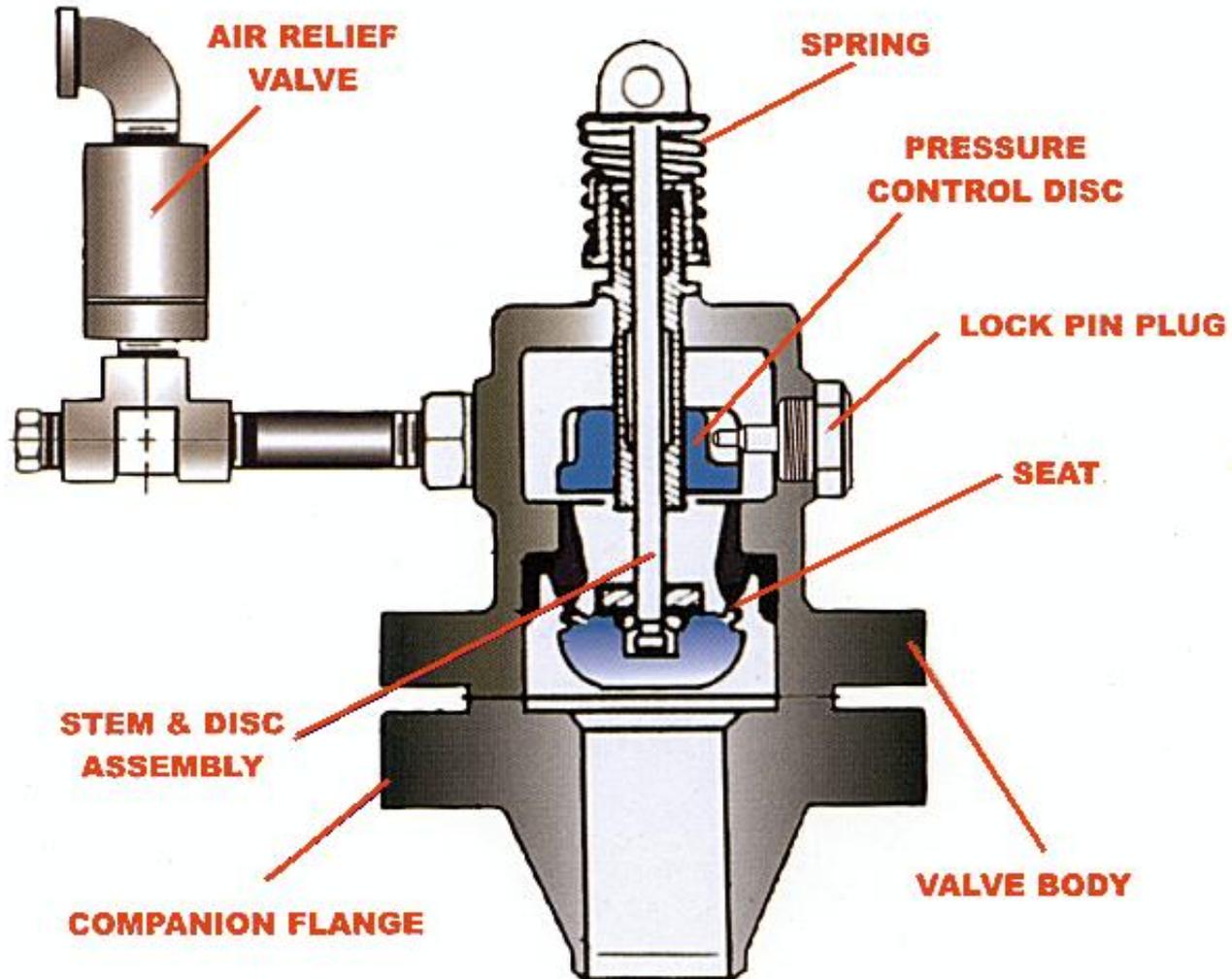
**Direct mechanical  
valve action without  
pilot actuation.**

**Quick and simple  
micrometer-like  
pressure adjustment  
for close regulation**

**Flexible seat and disc  
assures tight seating without  
critical adjustment  
preventing leakage.**

**Stellite valve seat is  
welded to steel heads.**

# Poppet Valve



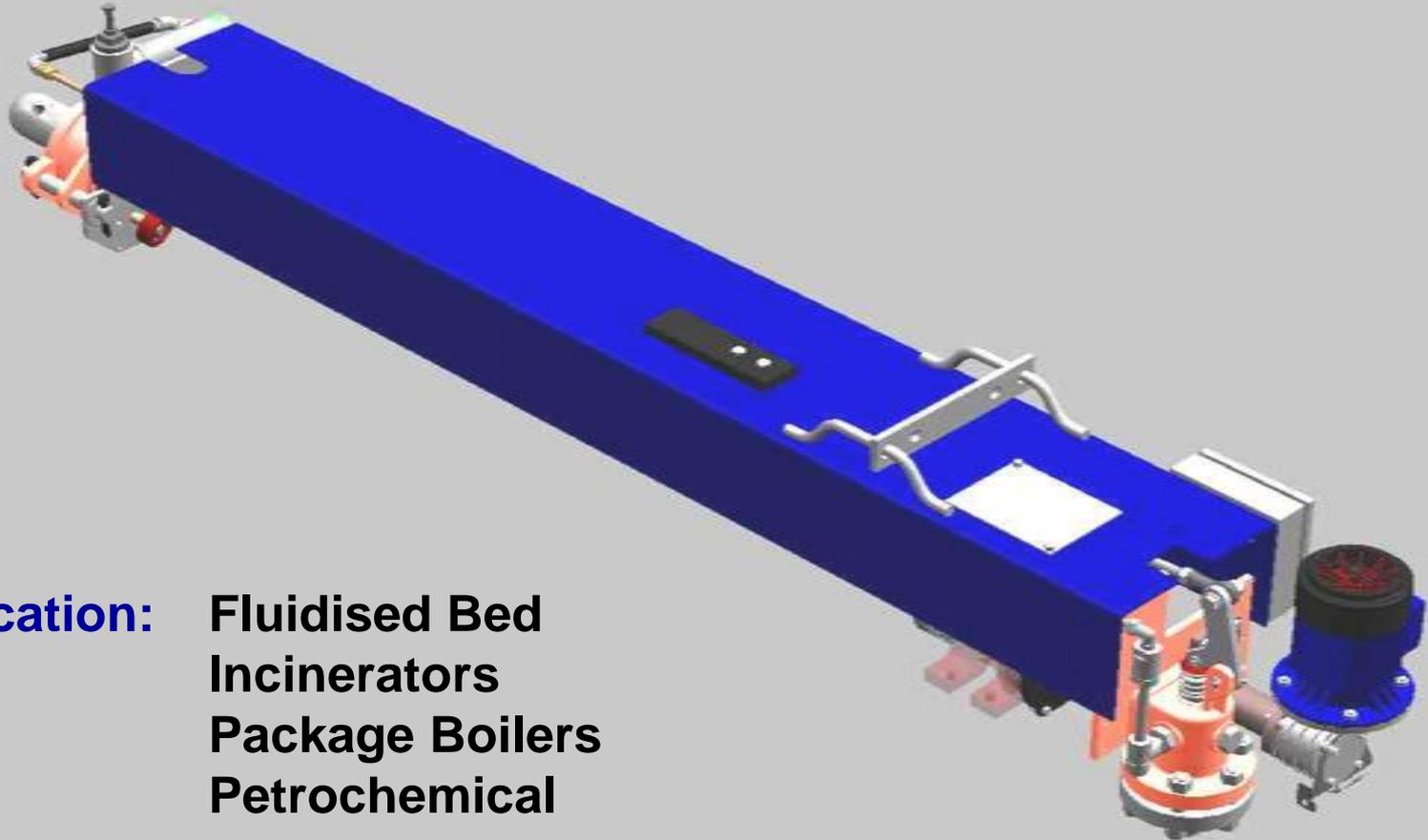
# Controlled Lance Tube Deflection

## Adjustable front rollers:

- For lance tube deflection control.
- True-rolling contact between lance tube and front roller provides proper positioning and support.
- Minimum wear at contact points.

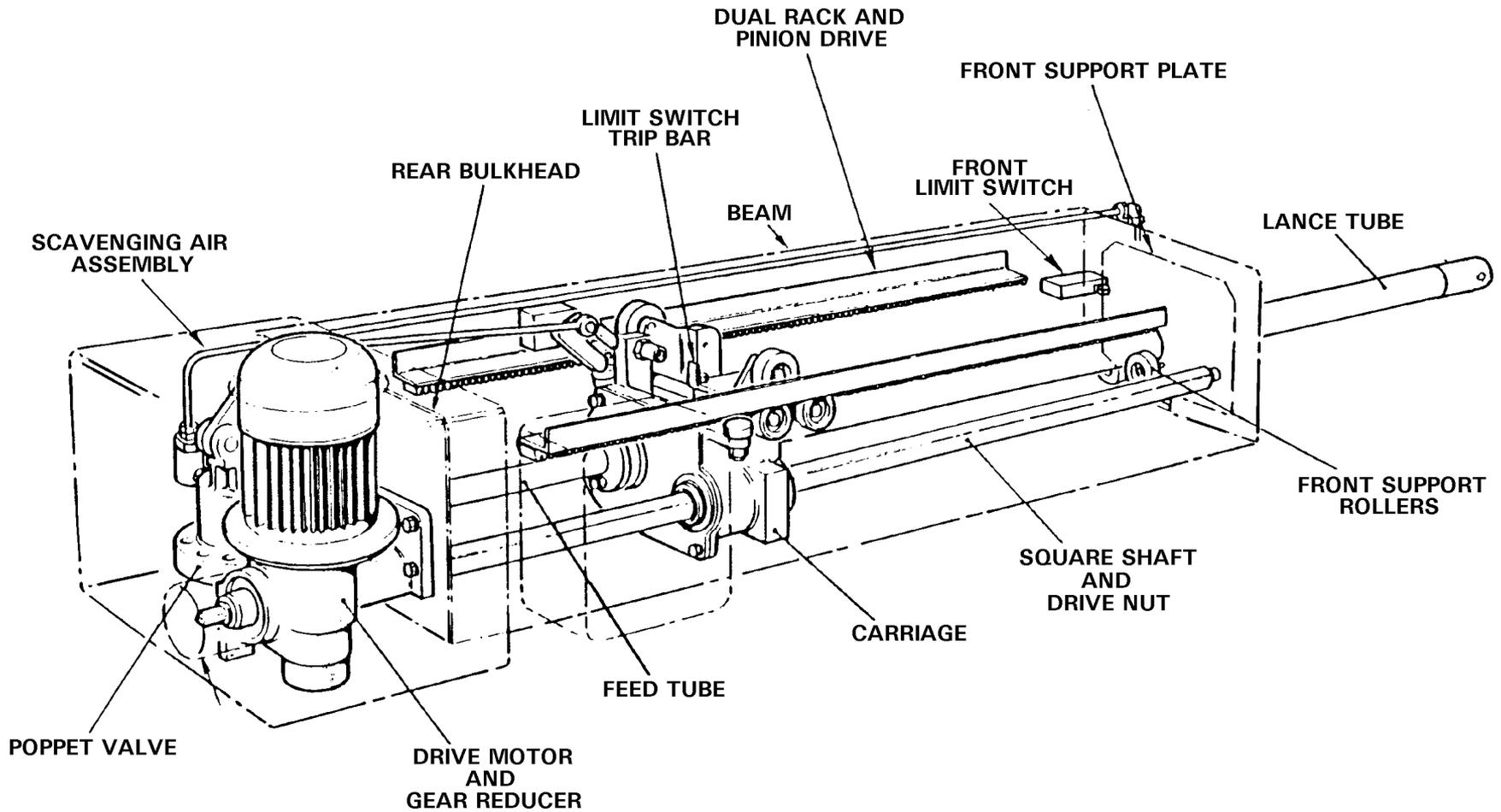


# IK4M Retractable Sootblower



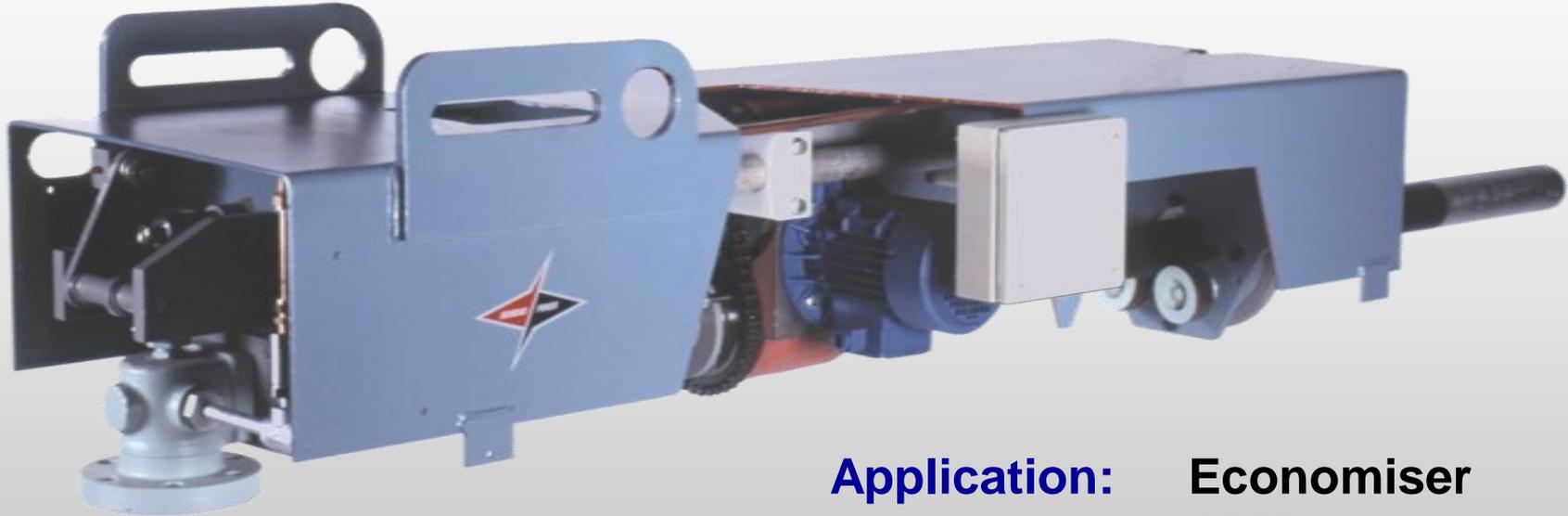
**Application:** Fluidised Bed  
Incinerators  
Package Boilers  
Petrochemical

**Travel:** 6.5m



**FIG.1 IK4M SOOTBLOWER - OVERALL VIEW**

# IK1M Part-Retractable Sootblower



**Application:** Economiser  
AirHeaters

**Travel:** 1.0m  
**Coverage:** 12.0m

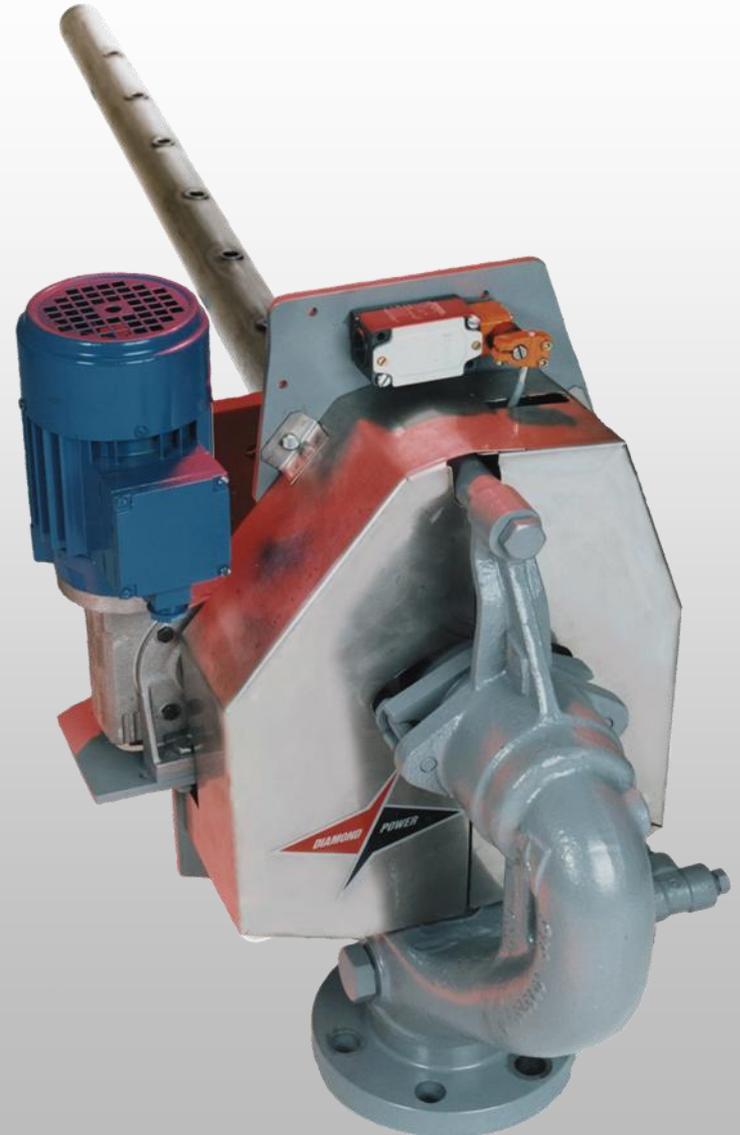
**Jet Tube:** Max gas temp 1100°C

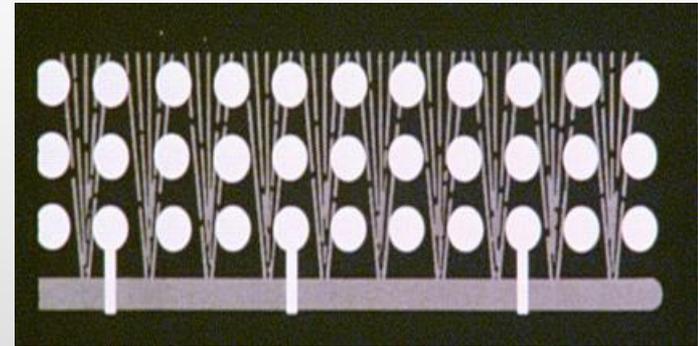
# G9B Rotary Sootblower

**Application:**      **Generating Bank**  
                             **Economisers**  
                             **Oil Heater**  
                             **Air Heater**

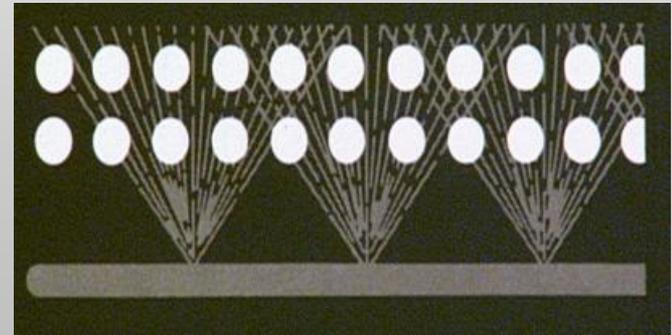
**Coverage:**            **6.0m**

**Jet Tube:**             **Max gas temp 1100°C**





**Lane Blowing**



**Mass Blowing**

## **IK510-LR Dual Media Sootblower**

**Application:** Gas Gas Heater  
Air Heater

**HP Water:** Max. 270 bar

**Travel:** 7.5m



# IK600 Recovery Boiler Sootblower

**Application:** Kraft Recovery Boiler

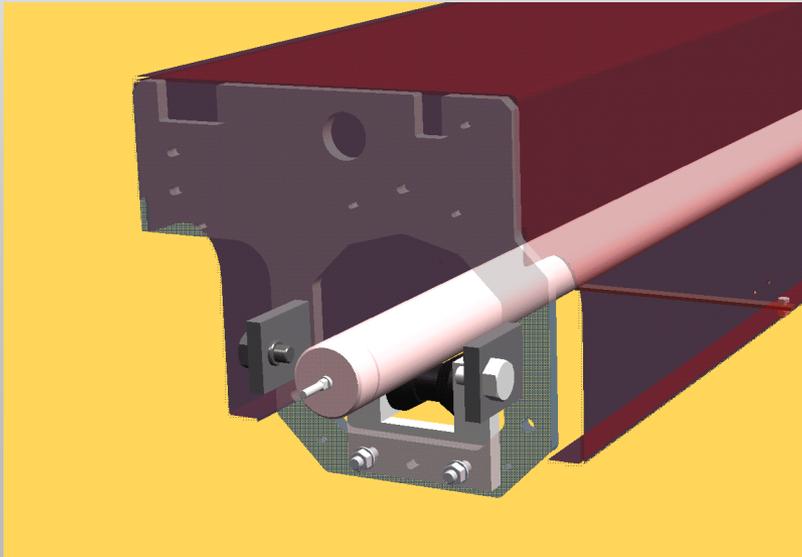
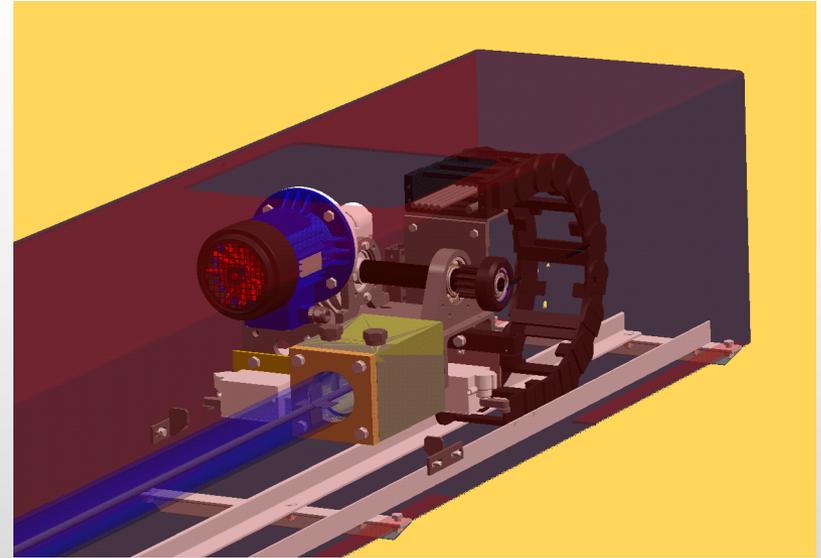
**Travel:** 7.6m

**Features:** Lubrication free  
Steam Purge Wallbox  
Gemini Nozzles  
PHM  
Open Top Beam



# TP500-E Thermo-Probe

**Application:** Boiler Start-Up  
Low Load Operation



**Gas Temp:** Max. 680°C  
with air cooling

**Travel:** Max. 11.0m  
with air cooling

# On-Line Boiler Diagnostics and boiler cleaning control systems enhance the operators ability to achieve optimum plant efficiency.



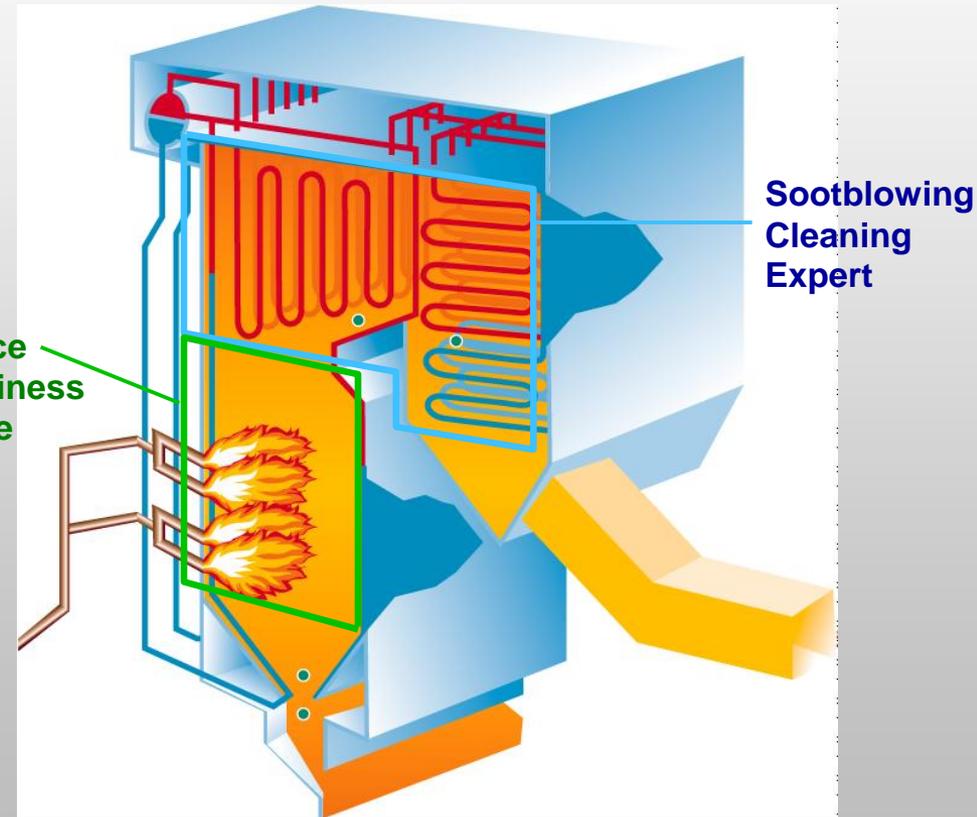
# Intelligent Sootblower Control System

The Boiler Cleaning Management System™ (BCMS) provides

- fully automatic sootblower control
- using real time heat transfer data
- calculating, optimising software
- auto operating of the sootblowers.

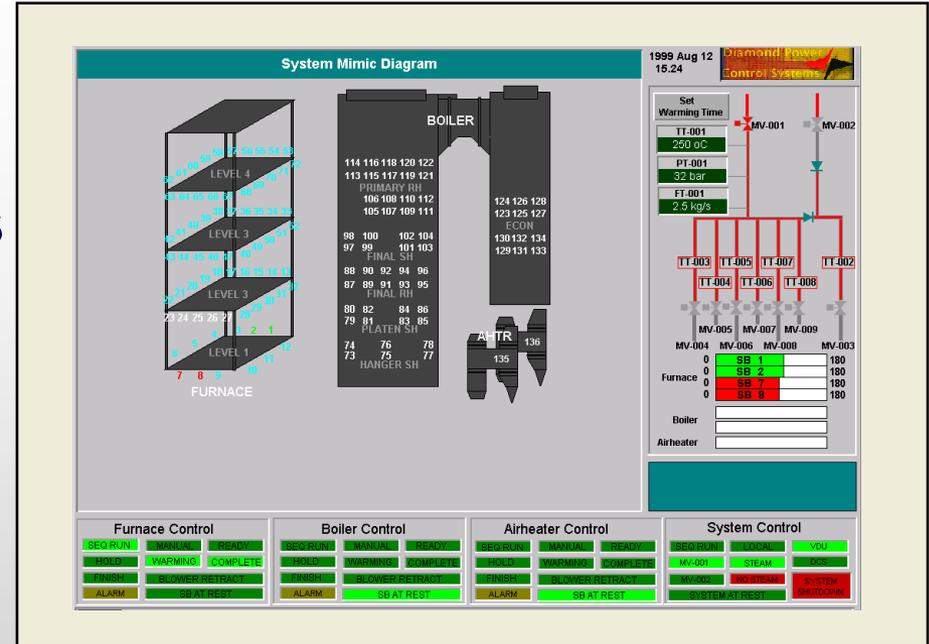
This is done by

- upgrading the existing sootblower control system or
- providing an Automatic Interface Module (AIM)™ to integrate with the existing plant sootblower controls.



# System Enhancements

- VDU/CRT Control Systems
- Precision Clean™
- OneWay Cleaning™



- GasTemp® XR
- Infrared Cameras
- Visible Cameras

# Comparison between Diamond Power And Clyde Bergemann

# Short Retractable Furnace Wall Sootblower

**Diamond - IR2G**

**CB - V92**

## **IR2G**

### **DRIVE**

#### **By Direct Spindle & Gearing**

- **High Efficiency**
- **Low Maintenance**

## **V92**

### **DRIVE**

#### **By Chain**

- **Low Efficiency**
- **High Maintenance**

## **IR2G**

### **DRIVE**

**By Direct Spindle & Gearing**

- **High Efficiency**
- **Low Maintenance**

### **WEIGHT**

**125kg**

## **V92**

### **DRIVE**

**By Chain**

- **Low Efficiency**
- **High Maintenance**

### **WEIGHT**

**Over 130kg**

## **IR2G**

### **DRIVE**

#### **By Direct Spindle & Gearing**

- **High Efficiency**
- **Low Maintenance**

### **WEIGHT**

**125kg**

## **V92**

### **DRIVE**

#### **By Chain**

- **Low Efficiency**
- **High Maintenance**

### **WEIGHT**

**Over 130kg**

- **Increased Shipping Cost**
- **Increased Installation Cost**
- **Greater Loading on Boiler wall**
- **More Difficult Erection**

# Long Retractable Sootblower

**Diamond - IK500 / IK4M**

**CB - PS / RK / RL**

## **Diamond**

### **CONSTRUCTION**

- **Rigid Formed Box Beam**
- **Strength & Stability**

## **CB**

### **CONSTRUCTION**

- **Frame**
- **Stability & Vibration Problems**

## **Diamond**

### **CONSTRUCTION**

- **Rigid Formed Box Beam**
- **Strength & Stability**

### **OPTIONS**

- **Variable speed options  
35mm/s, 60mm/s etc**
- **Gemini Nozzles**
- **Progressive Helix  
Mechanism**
- **Feedtube – 60mm x 5mm**

## **CB**

### **CONSTRUCTION**

- **Frame**
- **Stability & Vibration  
Problems**

### **OPTIONS**

- **No speed options only  
35mm/s**
- **Feedtube – 60mm x 2.9mm**

## **Diamond**

### **CONSTRUCTION**

- **Rigid Formed Box Beam**
- **Strength & Stability**

### **OPTIONS**

- **Variable speed options  
35mm/s, 60mm/s etc**
- **Gemini Nozzles**
- **Progressive Helix  
Mechanism**
- **Feedtube – 60mm x 5mm**

### **MAINTENANCE**

- **No need to disassemble  
blower to change Lance  
Tube**

## **CB**

### **CONSTRUCTION**

- **Frame**
- **Stability & Vibration  
Problems**

### **OPTIONS**

- **No speed options only  
35mm/s**
- **Feedtube – 60mm x 2.9mm**

### **MAINTENANCE**

- **Blower Must be  
disassembled to change  
Lance Tube**

## **Diamond**

### **QUALITY**

- **Manufactured & Assembled  
in UK & USA only**

## **CB**

### **QUALITY**

- **Manufactured & Assembled  
in Eastern Europe**

## **Diamond**

### **QUALITY**

- **Manufactured & Assembled in UK & USA only**

### **CUSTOMER SERVICE**

- **Global reputation for superior AS service**
- **Take “partnership” approach with customer & end users**

## **CB**

### **QUALITY**

- **Manufactured & Assembled in Eastern Europe**

### **CUSTOMER SERVICE**

- **Poor reputation for customer service – especially in Asia**
- **Emphasis on selling equipment**
- **Reluctant to have engineers visit site for commissioning and service work**

## **Diamond**

### **QUALITY**

- **Manufactured & Assembled in UK & USA only**

### **CUSTOMER SERVICE**

- **Global reputation for superior AS service**
- **Take “partnership” approach with customer & end users**

### **MANUALS/DOCUMENTATION**

- **Considered by users as far superior to all competitors**
- **All documentation is produced on a contract specific basis**

## **CB**

### **QUALITY**

- **Manufactured & Assembled in Eastern Europe**

### **CUSTOMER SERVICE**

- **Poor reputation for customer service – especially in Asia**
- **Emphasis on selling equipment**
- **Reluctant to have engineers visit site for commissioning and service work**

### **MANUALS/DOCUMENTATION**

- **Unclear & difficult to understand**
- **General documentation only**

## **Diamond**

- **Permanent Engineering presence based in Korea**
- **Quick response to all technical & engineering issues**
- **High emphasis on customer service**

## **CB**

- **No local presence in Korea**

# Summary

- Over 100 Years Experience
- Worldwide backup & service facilities
- Improvements through Continual R&D
- State-of-the-art Control Systems
- Provide technical consultancy

The logo features a stylized diamond shape composed of black and red geometric elements. A red triangle points upwards from the left side, while the rest of the diamond is black. A small 'TM' trademark symbol is positioned to the right of the diamond.

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